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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,978	08/22/2005	Laurence Josette Messe	128905-1004	6873

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EXAMINER	
BERMAN, SUSAN W	
ART UNIT	PAPER NUMBER
1796	
MAIL DATE	DELIVERY MODE
03/28/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/516,978	MESSE ET AL.	
	Examiner	Art Unit	
	/Susan W. Berman/	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 25-27, 42, 43 and 46-49 are rejected under 35 U.S.C. 102(b) as being anticipated by Ogiso et al (6,106,999). Osigo et al disclose compositions comprising a dipyrromethene boron complex of formula (1) as photosensitizer in amounts from 0.1 to 10 wt. % of the composition wherein the compositions have excellent storage stability (column 60, lines 10-22). The compositions also comprise epoxy resins and (meth)acrylates, free radical initiators and light acid generators or light base generators (column 57, line 1, to column 59, line 33). Example 98 discloses a composition comprising an acrylic polymeric binder, dipyrromethene boron complex, an oxetane compound and light acid generating compound (c) which composition was storage stable for 6 months. Those compositions disclosed by Ogiso et al containing from 0.1 to 0.3 wt. % dipyrromethene boron complex that are not complexes of a fluorine-containing boron compound anticipate the compositions in the instant claims wherein the Lewis acid-Lewis base is a dipyrromethene boron complex. The dipyrromethene boron complexes would be expected to inherently function as a stabilizer in actinic radiation curable compositions, in the absence of evidence to the contrary, because they are complexes of a Lewis acid and Lewis base, as required in the claims.

Claims 25-30, 38-40, 42, 43 and 46-49 are rejected under 35 U.S.C. 102(b) as being anticipated by Bressler et al (5,694,852). Bressler et al disclose formulations for printing comprising cycloaliphatic epoxide resins that can be UV curable or heat curable. An embodiment wherein the composition comprises a spiroorthocarbonate or spiroorthoester that is cationically polymerizable, a photocatalyst such as triphenyl sulfonium hexafluoro antimonate, and a Lewis acid tertiary amine complex catalyst is taught from column 13, line 46, to column 14, line 6. A di- or tri-functional acrylate can be added to the mixture. The spiroorthocarbonate or spiroorthoester is a reaction product of the epoxide with a lactone. Those compositions disclosed by Bressler et al containing from 0.1 to 0.3 wt. % Lewis acid tertiary amine complex that is not a complex of a fluorine-containing boron compound anticipate the compositions set forth in the instant claims. The Lewis acid tertiary amine complexes would be expected to inherently function as a stabilizer in actinic radiation curable compositions, in the absence of evidence to the contrary, because they are complexes of a Lewis acid and Lewis base, as required in the claims.

Claims 46 and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Pfann et al (3,395,121). Pfann et al disclose a complex of boron trichloride and a tertiary alkyl amine as latent curing agent for epoxy resins. The amine complex curing agents are said to provide exceptionally long storage-life to epoxy compositions (column 1, lines 41-48). The complexes disclosed by Pfann et al anticipate the instant claims because the epoxy resins are inherently radiation curable and the complexes would be expected to function as stabilizers as well as latent

curing agents, in the absence of evidence to the contrary, because Pfann et al teach that the disclosed curing agents provide exceptionally long storage life.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 25-30, 36, 38-43, and 45-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bressler et al (5,694,852). The disclosure of Bressler et al is discussed herein above. Bressler et al do not specifically disclose the weight % Lewis acid-Lewis base compound set forth in instant claims 25, 45 and 48. However, It would have been obvious to one skilled in the art at the time of the invention to determine the optimum amount of Lewis acid tertiary amine complex to employ in the compositions disclosed by Bressler et al by reference to the examples. With respect to claim 45, It would have been obvious to one skilled in the art at the time of the invention to determine optimum weight percents of the components disclosed by Bressler et al required to obtain desired properties, such as degree of crosslinking and storage stability, in the absence of evidence to the contrary. With respect to claims 36 and 41, It would have been obvious to one skilled in the art at the time of the invention to use two or more of the polymerizable components taught by Bressler et al. One skilled in the art at the time of the invention would have been motivated by a reasonable expectation of providing a useful radiation curable composition since both components provide cationically curable moieties.

Claims 25-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinmann et al (5,476,748) in view of Pfann et al '121. Steinmann et al disclose epoxy-acrylate hybrid compositions comprising sulfonium salt initiators corresponding to those in applicant's claims 38-40 and polyethers corresponding to those in applicant's claims 44 and 45. Steinmann et al teach numerous epoxides, including cycloaliphatic diepoxides. A cationic dye-borate anion initiator sensitive to visible light can be included. Steinmann et al do not teach including a complex of a Lewis acid and a Lewis base in the disclosed compositions. Pfann et al disclose species of a complex of boron trichloride and a tertiary alkyl amine corresponding to species set forth in the instant claims as latent curing agent for epoxy resins.

It would have been obvious to one skilled in the art at the time of the invention to employ the complex of boron trichloride and a tertiary alkyl amine disclosed by Pfann et al in the compositions disclosed by Steinmann et al. Steinmann et al provide motivation by teaching the photosensitive compounds can be included in the disclosed compositions. Pfann et al teach that the disclosed complex of boron trichloride and a tertiary alkyl amine curing agents provide exceptionally long storage life in compositions comprising epoxy resins. One skilled in the art at the time of the invention would have been motivated by a reasonable expectation of providing hybrid dual curable compositions having a long storage life, as taught by Pfann et al.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wolf et al (5,629,133) discloses compositions comprising a polyoxyalkylene-polysiloxane block copolymer, polyacrylates and free radical initiators. A cationic dye-borate anion initiator sensitive to visible light can be included. Wolf et al do not suggest curing by thermal means in addition to UV/VIS radiation and there is no suggestion found to include a complex of boron trichloride and a tertiary amine.

Lawton et al (5,665,792) disclose a stabilized photoacid precursor formulation wherein the stabilizer is a salt of a Group IA or IIA metal, ammonia or a substituted ammonia and a weak acid.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Susan W. Berman/ whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SB
3/24/2008

/Susan W Berman/
Primary Examiner
Art Unit 1796